

Application No.: 10/791,696Docket No.: 2336-250**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:**1-14. (canceled)**

15. (previously presented) An optical attenuator for attenuating an optical signal being transmitted from a first optical signal transmission line to a second optical signal transmission line, said attenuator comprising:

a moveable waveguide moveably disposed between the first and second optical signal transmission lines for transmitting the optical signal from the first to the second optical signal transmission lines;

a silicon layer carrying said moveable waveguide on a surface thereof;

a bonding medium layer having opposite first and second sides, said bonding medium layer having, on the first side, a cavity in which the moveable waveguide is received, the first side of the bonding medium layer being bonded to the surface of the silicon layer that carries said moveable waveguide;

a support layer attached to the second side of the bonding medium layer; and

an actuator formed in a predetermined region of the silicon layer for moving the moveable waveguide relative to the first and second optical signal transmission lines so as to attenuate the optical signal being transmitted.

16. (previously presented) The optical attenuator according to claim 15, wherein the bonding medium layer is formed of a polymer having a high light transmission.

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17. (previously presented) The optical attenuator according to claim 16, wherein the bonding medium layer is formed of polydimethylsiloxane (PDMS).

18. (previously presented) The optical attenuator according to claim 16, wherein the support layer is made of glass.

19. (previously presented) The optical attenuator according to claim 18, wherein the cavity in which the moveable waveguide is received has a shape and a size substantially same as those of the moveable waveguide.

20. (previously presented) The optical attenuator according to claim 19, wherein the actuator is a microelectromechanical system (MEMS) actuator.

21. (previously presented) The optical attenuator according to claim 20, wherein the MEMS actuator is a comb type actuator.

22. (previously presented) The optical attenuator according to claim 15, wherein the bonding medium layer is formed of a solidified liquid polymer.

23. (previously presented) The optical attenuator according to claim 15, wherein the bonding medium layer is formed of a polymer permitting covalent bonds between silicon atoms and oxygen atoms.

24. (previously presented) The optical attenuator according to claim 17, wherein the support layer is made of glass, the second side of the bonding medium layer including oxidized PDMS directly bonded to said glass.

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25. (previously presented) The optical attenuator according to claim 24, wherein the cavity in which the moveable waveguide is received has a shape and a size substantially same as those of the moveable waveguide.

26. (previously presented) The optical attenuator according to claim 24, wherein the actuator is a comb type, microelectromechanical system (MEMS) actuator.

27. (previously presented) The optical attenuator according to claim 15, further comprising two fixed waveguides optically connectable to the first and second optical signal transmission lines, respectively;

the moveable waveguide being moveably disposed between said fixed waveguide parts for attenuating the optical signal being transmitted from the first optical signal transmission line to the second optical signal transmission line via said fixed and moveable waveguides.